

# Material Safety Data Sheet

## According to 91/155 EEC

Printing date 26.09.2005

Reviewed on 25.08.2005

### 1 Identification of substance:

- **Product details:**
- **Trade name:** *RM 101 ASF Descaling agent*
- **Application of the substance / the preparation** *Descalant*
- **Manufacturer/Supplier:**

Alfred Kärcher GmbH & Co. KG  
 Alfred-Kärcher-Str. 28 - 40  
 71364 Winnenden  
 Germany

Postfach 160  
 71349 Winnenden  
 Germany

Tel.: 0049-7195-14-0  
 Fax : 0049-7195-14-2212

Internet: [www.karcher.com](http://www.karcher.com)

- **Further information obtainable from:**  
 Department PND-D  
 Tel.: 0049-7195-14-2548  
 Fax : 0049-7195-14-3164
- **Information in case of emergency:** Tel.: 0049-30-19240

### 2 Composition/Data on components:

- **Chemical characterization:**
- **CAS No. Description:**  
*hydrochloric acid*
- **Identification number(s):**
- **EINECS Number:** 2315957
- **EU Number:** 017-002-01-X

- **Chemical characterization**

- **Dangerous components:**

CAS: 110-65-6	but-2-yne-1,4-diol	 T; R 21-23/25-34-43-48/22	< 2.5%
EINECS: 203-788-6			

### 3 Hazard identification

- **Hazard description:**



C Corrosive

- **Information concerning to particular hazards to man and environment**  
 R 34 Causes burns.  
 R 37 Irritating to respiratory system.
- **Additional information:**  
 The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds.

### 4 First aid measures

- **General information** Immediately remove any clothing soiled by the product.
- **After inhalation**  
 Supply fresh air; consult doctor in case of complaints.  
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing** Drink plenty of water and provide fresh air. Call for a doctor immediately.

### 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards caused by the substance, its products of combustion or resulting gases:**  
Hydrogen chloride (HCl)
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**  
Prevent seepage into sewage system, workpits and cellars.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

### 7 Handling and storage

- **Handling**
- **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:**  
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:**  
Store under lock and key and out of the reach of children.  
Keep receptacle tightly sealed.
- **Storage class** VCI-storage class: 8B - not flammable corrosive substances

### 8 Exposure controls and personal protection gear

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

#### hydrochloric acid

OELV (Ireland)	Short-term value: 14 mg/m <sup>3</sup> , 10 ppm Long-term value: 7 mg/m <sup>3</sup> , 5 ppm
TLV (European Union)	Short-term value: 15 mg/m <sup>3</sup> , 10 ppm Long-term value: 8 mg/m <sup>3</sup> , 5 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

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- **Respiratory protection:**  
*Not necessary if room is well-ventilated.  
 Use suitable respiratory protective device in case of insufficient ventilation.  
 Short term filter device:  
 Filter A/P2.*
- **Protection of hands:** \* chemical resistant protective gloves (EN 374)
- **Material of gloves**  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
- **Penetration time of glove material**  
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*
- **For the permanent contact gloves made of the following materials are suitable:**  
 \* butyl rubber 0,7 mm, 480 min
- **As protection from splashes gloves made of the following materials are suitable:**  
 \* nitril rubber 0,4 mm, 30 min
- **Eye protection:** Tightly sealed goggles.

### 9 Physical and chemical properties:

#### · General Information

<b>Form:</b>	Fluid
<b>Colour:</b>	Red
<b>Odour:</b>	Characteristic

#### · Change in condition

<b>Melting point/Melting range:</b>	-40°C
<b>Boiling point/Boiling range:</b>	85°C

· **Flash point:** Not applicable

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Vapour pressure at 20°C:** 20 hPa

· **Density at 20°C:** 1.15 g/cm<sup>3</sup>

#### · Solubility in / Miscibility with

**Water at 20°C:** 720 g/l

· **pH-value at 20°C:** 0

#### · Viscosity:

<b>dynamic at 20°C:</b>	4 mPas
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	0.3 %

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
*No decomposition if used and stored according to specifications.*
- **Dangerous reactions**  
*Reacts with strong alkali  
 Forms hydrogen in aqueous solution with metals*
- **Dangerous decomposition products:**  
*Hydrogen chloride (HCl)  
 Chlorine*

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### 11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

### 12 Ecological information:

- **Ecotoxicological effects:**
- **Other information:**  
COD value (solution in tap water 20 °d):  
23 mg/l (0,1 %)
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralized.  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water.

### 13 Disposal considerations

- **Product:**
- **Recommendation** Must be specially treated adhering to official regulations.
- **Waste disposal key:** EWC-Code 060102 - hydrochloric acid

- **European waste catalogue**

06 01 02	hydrochloric acid
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- **Uncleaned packaging:**
- **Recommendation:** Non contaminated packagings may be recycled.
- **Recommended cleansing agents:** Water, if necessary together with cleaning agents.

### 14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 8 Corrosive substances.
- **Danger code (Kemler):** 80
- **UN-Number:** 1789
- **Packaging group:** II
- **Hazard label** 8
- **Description of goods:** 1789 HYDROCHLORIC ACID

- **Maritime transport IMDG:**



- **IMDG Class:** 8
- **UN Number:** 1789
- **Label** 8
- **Packaging group:** II

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- **EMS Number:** F-A,S-B
- **Marine pollutant:** No
- **Proper shipping name:** HYDROCHLORIC ACID

- **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 1789
- **Label:** 8
- **Packaging group:** II
- **Proper shipping name:** HYDROCHLORIC ACID

### 15 Regulations

- **Labelling according to EU guidelines:**  
The product has been marked in accordance with EU Directives / respective national laws.
- **Code letter and hazard designation of product:**  
C Corrosive
- **Risk phrases:**  
34 Causes burns.  
37 Irritating to respiratory system.
- **Safety phrases:**  
1/2 Keep locked up and out of the reach of children.  
20 When using do not eat or drink.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
60 This material and its container must be disposed of as hazardous waste.
- **Special labelling of certain preparations:**  
Contains but-2-yne-1,4-diol. May produce an allergic reaction.
- **National regulations**
- **Information about limitation of use:** Employment restrictions concerning juveniles must be observed.
- **Technical instructions (air):**

Class	Share in %
I	0.4
- **Waterhazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.

### 16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.  
A product information sheet can be provided if requested.

- **Relevant R-phrases**  
21 Harmful in contact with skin.  
23/25 Toxic by inhalation and if swallowed.  
34 Causes burns.  
43 May cause sensitisation by skin contact.  
48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

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· **Department issuing MSDS:** Department PND-D

· **Contact:**

Frau Fiess, Frau Kühner

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0.011-732 D 101/5

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